

IN THE
United States Court of Appeals for the Federal Circuit

SONOS, INC.,

Appellant,

v.

GOOGLE LLC,

Appellee.

On Appeal from the United States Patent and Trademark Office,
Patent Trial and Appeal Board No. IPR2021-01563

**REPLY BRIEF OF
APPELLANT SONOS, INC.**

George I. Lee
Sean M. Sullivan
Rory P. Shea
J. Dan Smith
Cole B. Richter
Matthew Sampson
LEE SULLIVAN SHEA & SMITH LLP
656 W. Randolph St., Floor 5W
Chicago, IL 60661

Mark S. Davies
Jonas Q. Wang
ORRICK, HERRINGTON &
SUTCLIFFE LLP
2100 Pennsylvania Avenue, NW
Washington, DC 20037
(202) 339-8400

Edmund Hirschfeld
Emily W. Villano
ORRICK, HERRINGTON &
SUTCLIFFE LLP
51 West 52nd Street
New York, NY 10019

Counsel for Appellant

TABLE OF CONTENTS

	Page
TABLE OF AUTHORITIES.....	iii
INTRODUCTION.....	1
ARGUMENT	3
I. The Board Failed To Marshal Substantial Evidence For Modifying Al-Shaykh To Incorporate Qureshey’s IPAN Server.	3
A. The Board erroneously found that a skilled artisan looking to improve Al-Shaykh would have considered Qureshey.	3
1. The Board failed to cite substantial evidence that the references teach “similar devices” to solve the “same problems.”	4
2. The Board failed to cite substantial evidence that Al-Shaykh’s playback device can retrieve content directly from a remote server.	17
3. The Board failed to cite substantial evidence that a skilled artisan would have sought to improve Al-Shaykh’s GUI by consulting Qureshey.	22
B. The Board erroneously found that a skilled artisan looking to improve Al-Shaykh would have incorporated Qureshey’s IPAN server in particular. ..	23
II. The Board Failed To Marshal Substantial Evidence For Modifying Al-Shaykh To Implement Claim 9’s Unique Form Of Cloud Messaging.	29
III. The Board Failed to Marshal Substantial Evidence That Al-Shaykh Teaches, Or A Skilled Artisan Would Have Incorporated From Phillips, A Control Device That Stops Its Own Playback When Sharing Content.....	32

A.	The Board erroneously found that Al-Shaykh teaches stopping playback at the control device.	33
B.	The Board erroneously found a motivation to combine Al-Shaykh with Phillips.	37
CONCLUSION		40
CERTIFICATE OF COMPLIANCE		

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Apple Inc. v. Samsung Elecs. Co.</i> , 839 F.3d 1034 (Fed. Cir. 2016)	39
<i>Arendi S.A.R.L. v. Apple Inc.</i> , 832 F.3d 1355 (Fed. Cir. 2016)	4, 11, 36, 38, 39
<i>Ariosa Diagnostics v. Verinata Health, Inc.</i> , 805 F.3d 1359 (Fed. Cir. 2015)	35, 37
<i>Automated Merchandising Sys., Inc. v. Lee</i> , 782 F.3d 1376 (Fed. Cir. 2015)	31
<i>DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.</i> , 567 F.3d 1314 (Fed. Cir. 2009)	39
<i>DSS Tech. Mgmt., Inc. v. Apple Inc.</i> , 885 F.3d 1367 (Fed. Cir. 2018)	4, 6, 10, 11, 37
<i>Intel Corp. v. Qualcomm Inc.</i> , 21 F.4th 784 (Fed. Cir. 2021).....	26
<i>Interactive Gift Exp., Inc. v. CompuServe Inc.</i> , 256 F.3d 1323 (Fed. Cir. 2001)	16
<i>Liebel-Flarsheim Co. v. Medrad, Inc.</i> , 358 F.3d 898 (Fed. Cir. 2004)	19
<i>Medtronic, Inc. v. Teleflex Innovations S.A.R.L.</i> , 68 F.4th 1298 (Fed. Cir. 2023).....	16
<i>Netflix, Inc. v. DivX, LLC</i> , No. 2022-1083, 2023 WL 2298768 (Fed. Cir. Mar. 1, 2023).....	35
<i>In re Nuvasive, Inc.</i> , 842 F.3d 1376 (Fed. Cir. 2016)	3, 21

<i>Sage Prods., Inc. v. Devon Indus., Inc.</i> , 126 F.3d 1420 (Fed. Cir. 1997)	17
<i>SEC v. Chenery Corp.</i> , 332 U.S. 194 (1947)	36
<i>In re Thrift</i> , 298 F.3d 1357 (Fed. Cir. 2002)	36, 39
<i>TQ Delta, LLC v. Cisco Sys., Inc.</i> , 942 F.3d 1352 (Fed. Cir. 2019)	1, 4, 10, 23, 24, 37, 38
<i>Unwired Planet, LLC v. Google Inc.</i> , 841 F.3d 995 (Fed. Cir. 2016)	26
Other Authorities	
19 Moore’s Federal Practice § 205.05 (3d ed. 1997)	16

INTRODUCTION

This case shows why “technical gaps” doom a motivation-to-combine analysis. *TQ Delta, LLC v. Cisco Sys., Inc.*, 942 F.3d 1352, 1360 (Fed. Cir. 2019). Google’s hindsight-driven obviousness theories fused references that differed fundamentally from each other. The Board was required to examine whether those differences would have deterred a skilled artisan from pursuing the combinations. *Id.* But the Board never performed that critical analysis because it overlooked the differences at issue.

Google tries in vain to overcome the technical gaps in the Board’s decision. Regarding claim 1’s first-cloud-server limitation, Google urges that the glaring, unaddressed disparities between Qureshey and Al-Shaykh were somehow “additional similarities.” Resp. Br. (RB) 36. The record plainly shows otherwise. Google also insists the Board cited enough commonalities between the references to justify ignoring their disparities. But this Court’s searching motivation-to-combine standard demands more than that—particularly where, as here, the purported commonalities are mere conclusory generalizations. Ultimately, Google resorts to blaming *Sonos* for the Board’s technical gaps, asserting that

we never raised the differences between Qureshey and Al-Shaykh and thereby forfeited the issue. The IPR record emphatically refutes that charge, and Google's heavy reliance on such a plainly unpersuasive forfeiture position speaks volumes about its weakness on the merits.

As for claim 9, Google has now affirmatively conceded grounds for reversal. That claim requires the control device (here, Al-Shaykh's mobile device) to send a message to a remote content service that causes the first cloud server (here, Qureshey's separate IPAN server) to send information to the playback device. The Board offered no evidence of such a message, and Google now admits it does not exist—any message that travels to the remote content service is *separate* from the message that causes the IPAN server to send information. And once more, the IPR record belies Google's misguided forfeiture argument.

That leaves claim 1's stopping-control-device-playback limitation. The Board's obviousness rationales hinged on its mistaken belief that Al-Shaykh's paragraph 132 taught stopping the mobile device's playback when sharing content. As Google conceded below, however, paragraph 132 says the opposite. Google now retreats from that concession, but it was right the first time. And there is no basis for

treating the Board’s error as “harmless,” RB60, given the conclusory nature of Google’s remaining evidence.

This Court demands a “thorough and searching” obviousness analysis to ward off improper hindsight bias when combining prior-art references. *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (quotation marks omitted). That never happened here, and hindsight bias prevailed. The Court should reverse, or at minimum vacate, the Board’s improper obviousness findings.

ARGUMENT

I. The Board Failed To Marshal Substantial Evidence For Modifying Al-Shaykh To Incorporate Qureshey’s IPAN Server.

A. The Board erroneously found that a skilled artisan looking to improve Al-Shaykh would have considered Qureshey.

As our opening brief explained, the Board did not (and could not) offer substantial evidence that a skilled artisan looking to improve Al-Shaykh would have been motivated to consider Qureshey *at all*.

Opening Br. (OB) 44-57. The Board ruled that a collection of three subsidiary findings established that motivation:

1. Qureshey and Al-Shaykh purportedly taught “similar devices” to solve “the same problems;”

2. Al-Shaykh purportedly taught that its playback devices, like Qureshey's, would directly retrieve content from a remote streaming service, but omitted the "back-end server functionality" for that connection; and
3. Both references mentioned control devices with a graphical user interface (GUI).

Appx40-41. Those subsidiary findings are not "independent," as Google mistakenly suggests. RB30. The Board relied exclusively on their *combination*, placing all three in a single block quote and concluding the entire quote contained sufficient "reasoning based on facts in the record and logic." Appx41. So the Board's decision cannot stand if even one subsidiary finding lacked substantial evidence. And Sonos has demonstrated that all three were fundamentally flawed.

1. The Board failed to cite substantial evidence that the references teach "similar devices" to solve the "same problems."

a. Google does not dispute that identifying isolated "similarities" between references while leaving "technical gaps" unaddressed, *TQ Delta*, 942 F.3d at 1360, amounts to "conclusory generalizations" rather than "a reasoned explanation," *DSS Tech. Mgmt., Inc. v. Apple Inc.*, 885 F.3d 1367, 1377 (Fed. Cir. 2018) (quoting *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1366 (Fed. Cir. 2016)). The Board's finding of similarity is plagued by such gaps. OB44-57.

Qureshey’s “stand alone” playback device and broader “IPAN” architecture prioritized “convenience” by minimizing the need for consumer computing and networking know-how. OB14-17 (quoting Appx3350 (2:18-19), Appx3352 (5:63)). Users could browse and play internet content using the playback device alone, thanks to its built-in internet connection and control interface. OB18-19. If the user wished to send a playlist from their PC to the playback device, Qureshey’s IPAN architecture transmitted it without a home network (albeit with considerable delay) by relaying the playlist through the cloud-based IPAN server. OB17-20. Qureshey’s system thus did not enable the user to exert real-time playback control from the PC. OB20-21.

Al-Shaykh’s more modern system works entirely differently. OB21. Its playback devices always work in tandem with the mobile device, which exercises full playback control and arranges any access to internet content. OB23-24, 46 (citing Appx3279-3280 [0008], [0014]-[0015]). Al-Shaykh even criticized reliance on playback devices’ built-in “user interfaces” for playback control. Appx3279 [0008]. And Al-Shaykh’s broader architecture *always* needs a home network to share content among devices. Unlike Qureshey’s PC, which relays playlists

via the cloud-based IPAN server, Al-Shaykh’s mobile device exclusively communicates with playback devices over direct, home-network connections, which “minimize[s] the delay” in sharing content and facilitates the real-time playback control Qureshey lacks. OB24-25 (quoting Appx3283 [0050], [0061]).

The Board did not reckon with those obvious differences, and so failed to provide substantial evidence or a “reasoned analysis” showing the similarity of the two systems. *DSS*, 885 F.3d at 1377.

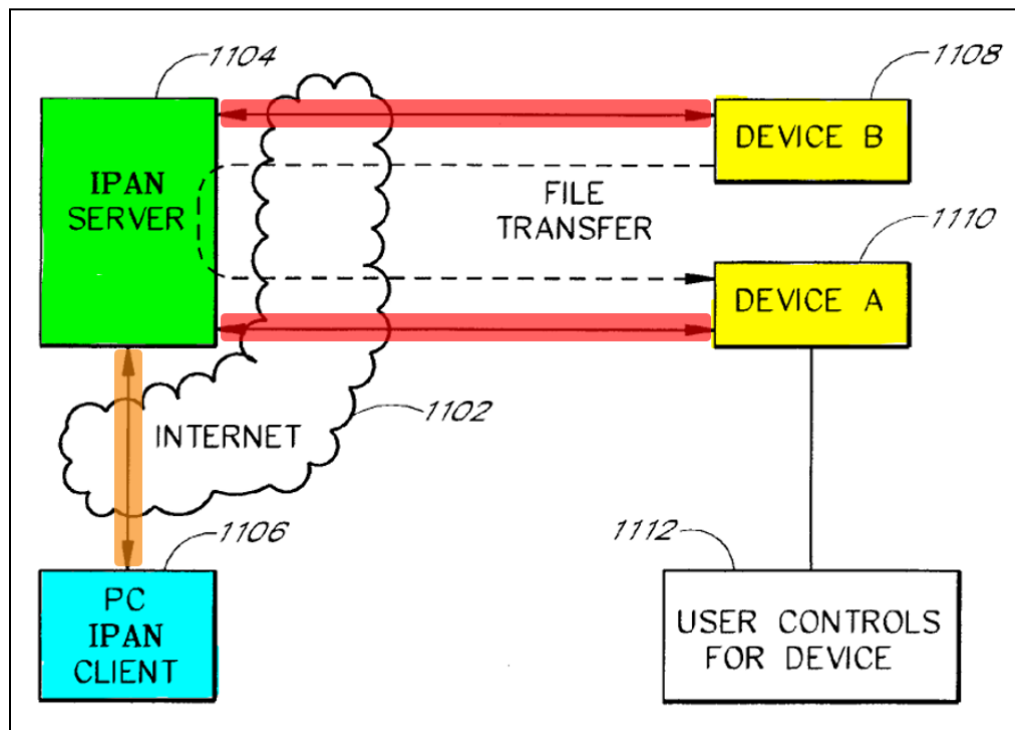
b. Google “cannot close these gaps.” *Id.* On the “merits,” it first urges that the unaddressed disparities between Qureshey’s and Al-Shaykh’s devices are “irrelevant” because Google’s “combination added Qureshey’s *IPAN server* to Al-Shaykh’s system.” RB36. That makes no sense. In finding a motivation to combine the references, the Board relied squarely on their purportedly “similar devices.” Appx40. That it erred in doing so is plainly “relevant” on appeal. RB36.

Google makes a related mistake by suggesting it is “irrelevant” that Qureshey’s PC lacks “‘full, essentially real-time control’ of the playback device.” RB37 n.5. Google urges that it relies on Al-Shaykh, not Qureshey, as the source of that feature in its proposed combination.

Id. That is a non sequitur. The question is whether, *before* any combination, Qureshey’s and Al-Shaykh’s distinct devices are in fact so “similar” that a person of ordinary skill would have considered integrating them. Appx40. The fact that Al-Shaykh’s system was designed to offer real-time playback control, while Qureshey’s was not, is yet another critical difference the Board (and Dr. Bims) overlooked.

Google then tries to recast the unaddressed disparities between Qureshey and Al-Shaykh as “additional similarities.” RB36. It suggests Al-Shaykh’s playback device stands alone just like Qureshey’s because it, too, requires users to control playback via its built-in “controls.” *Id.* That is plainly wrong. The whole point of Al-Shaykh is to concentrate playback control solely on the *mobile device*’s interface to the *exclusion* of the playback device’s controls. *Supra* 5. Google’s speculation that a “television” or “stereo” in Al-Shaykh’s system would have some buttons of its own, RB36, changes nothing. What matters is that Al-Shaykh emphatically *does not* rely on such buttons to control shared playback, while Qureshey *does* rely on its playback device’s buttons to control a downloaded playlist.

Google also asserts that Sonos is “incorrect in contending that Qureshey’s system,” unlike Al-Shaykh, “avoided relying on a home network” to deliver playlists to the playback device. RB10 n.2 (quoting OB19). Again, that is clearly wrong. As our opening brief explained, Qureshey teaches that the user’s PC transfers playlists to a playback device *via the remote IPAN server* without requiring any direct, home-network connection between the PC and the playback device. OB17-20. Indeed, there would be no need for the IPAN server if the PC simply sent playlists directly to the playback device. That is why Qureshey’s Figure 11 depicts no direct connection between the PC (highlighted in blue) and the playback devices (yellow):



Appx3314.

In an attempt to distract from that critical teaching, Google cites a handful of lines in Qureshey noting that users could “[o]ptionally” consider adding certain home network connections to the baseline system. Appx3350 (2:66); *see* RB10, 37 (citing Appx3350-3351 (2:66-3:1, 3:57-60); Appx3357-3358 (16:56-17:31); Appx3364 (30:19-26)). In the passage Google highlights, for example, the user could add a local connection between two different playback devices such that when one is “assign[ed]” a playlist via the IPAN server, it can directly “download[]” corresponding content saved on the other playback device. Appx3364 (30:19-26). But that simply underscores the fundamental difference between the references. Even in that example, Qureshey’s architecture *still* moves a playlist from PC to playback device via the cloud-based IPAN server. And more broadly, Qureshey presents *any* home networking as merely optional precisely because the IPAN server is designed to work without one. OB20 (citing Appx3350 (2:66)). Al-Shaykh’s mobile device, in contrast, communicates with playback devices *exclusively* through a direct, home-network connection. *Supra* 5-6; OB23-24.

Google’s last line of defense on the merits is that Sonos “minimizes or ignores the abundant evidence of the references’ similarities that Dr. Bims introduced and that the Board credited.” RB37. That argument fails for two reasons. First, it defies the governing legal standard. As explained, expert testimony that identifies isolated “similarities” between references, *TQ Delta*, 942 F.3d at 1360, is still conclusory if it “failed to consider” meaningful differences in how the references work, *DSS Tech.*, 885 F.3d at 1376. To offer a reasoned explanation for combining two references, an expert must explain how the skilled artisan would have confronted and overcome significant differences between them. Google thus gets nowhere by arguing that Dr. Bims, having entirely overlooked several critical differences between Qureshey and Al-Shaykh, offered “abundant” testimony that other slivers of the references were similar. RB37. That testimony “cannot close the[] gaps” in his analysis. *DSS*, 885 F.3d at 1377.

In any event, Dr. Bims’ testimony regarding the similarity of Qureshey’s and Al-Shaykh’s devices was hardly abundant. Precisely because he avoided addressing the core (and strikingly different) features of both references, Dr. Bims offered only exceedingly high-level

generalizations. As Google recounts, he noted both references “enable users to play back content on system devices from the Internet.” RB13 (citing Appx3125-3126 ¶ 72). It doesn’t get much more high-level than that—both systems somehow enable users to play internet content, never mind the details. Dr. Bims also stated that both references include a “control device” of some kind and “rendering devices” of some kind, which he suggested would be “often used in homes or offices.” RB13 (citing Appx3125-3126 ¶ 73). Those, too, are generic features common to an untold array of internet-connected systems. The same goes for Dr. Bims’ testimony that the control devices in both Qureshey and Al-Shaykh have GUIs that somehow enable the user to “manage content to play,” RB13 (citing Appx3128 ¶ 75), and send “metadata”—that is, digital information—“associated with media content,” RB14 (citing Appx3128-3129 ¶ 76).

These are textbook “conclusory generalizations” that say nothing about the details of how Qureshey’s and Al-Shaykh’s systems actually work. *DSS*, 885 F.3d at 1377 (quoting *Arendi*, 832 F.3d at 1366). They are akin to describing a vintage motorcycle and a modern electric car as similar because both have wheels and sources of propulsion, while

ignoring the obvious differences between them. Dr. Bims never explained why a skilled artisan would have deemed the *specific technologies* in each reference compatible despite their glaring mismatches.

Google fares no better in rehabilitating Dr. Bims' testimony about the "problems" that Qureshey and Al-Shaykh tried to solve. RB39. Google cannot dispute that Qureshey expressly described computing and networking as difficult for consumers and set out to enhance "convenience" by offering a "stand alone" playback device that could operate largely independently. Appx3350 (2:18-19), Appx3352 (5:63). Nor can Google dispute that Al-Shaykh expressly set out to fix the "disadvantage[s]" of prior mobile interfaces with a new sort of screen. Appx3279-3280 [0007-0014]. These descriptions of each reference's perceived challenge are not "unsupported attorney argument," RB39—they are clear statements from the references themselves.

Once more, Dr. Bims ignored all of that and offered only high-level generalizations. Google cites his assertion that, when compared to "traditional systems" without internet access, Qureshey and Al-Shaykh each offered "greater accessibility to more content." RB39 (citing

Appx3125-2126 ¶ 72); *see* RB13. That is just another way of noting both systems somehow accessed internet content. Dr. Bims' statements that Qureshey and Al-Shaykh "mix expensive control devices" with "low-cost playback devices," and can play content in "various device configurations," are equally generic. RB39 (citing Appx3126-3128 ¶¶ 73-74); *see* RB13. He again failed to explain why a skilled artisan would have perceived compatibility in the *specific problems* each reference sought to solve.

c. Facing these fatal defects in its obviousness case, Google tries to avoid appellate scrutiny by invoking forfeiture. It contends that "Sonos never distinguished Qureshey and Al-Shaykh" on the grounds that Qureshey teaches "a 'stand alone' playback device with on-device controls that does not require the user to set up a home network," while Al-Shaykh "discloses that '[i]ts playback device does not stand alone' and 'relies exclusively on the user's home network to receive control inputs and media content.'" RB35 (quoting OB45-46). That drastically mischaracterizes the record and comes nowhere close to meeting the demanding forfeiture standard.

Our IPR briefing explained at length that the references offered “fundamentally different and inconsistent teachings” in the same ways we now highlight on appeal. Appx384; *see* Appx394-396; Appx399. To start, we told the Board precisely how Qureshey’s playback device is designed to stand alone: It accesses internet content “*without the need*” for a personal computer or other expensive equipment,” Appx365 (quoting Appx3353-3354 (7:28-33, 10:49-50)), and requires consumers to “utilize” its built-in “user controls” for real-time playback, Appx365, Appx367 (quoting Appx3354 (10:58-63), Appx3362-3363 (26:20-33, 26:63-27:15)).

Our IPR briefing likewise explained to the Board precisely how Qureshey’s PC sends a playlist without relying on a home network. It reproduced Qureshey’s Figure 11, which (as explained above at 8) illustrates playlist transmission working without any direct connection between the PC and playback device. Appx366. We emphasized that, “[a]s shown” in that figure, “playlists are assigned via ... an ‘IPAN server,’” Appx366 (quoting Appx3357 (16:56-62)), which was located remotely in the “cloud” and accessed over “the Internet,” Appx395-396, Appx400.

Our IPR briefing then explained how Al-Shaykh was “incompatible” with those features of Qureshey. Appx385. It noted that Al-Shaykh concentrates playback control on the mobile device’s “interface” and “denigrates” Qureshey’s reliance on each “audio device’s user interface.” Appx385 (citing Appx3279 [0008]). We further emphasized that Al-Shaykh’s system always “us[ed] the home network” when transferring content, Appx363-364, such that its mobile device communicated with the playback device without “depend[ing] on a connection to the Internet,” Appx400. Our briefing argued (then as now) that Al-Shaykh’s “‘home network’ approaches” did not fit with a “cloud-based approach” like Qureshey’s, in part because sending data to the playback device via “a first cloud server” like Qureshey’s IPAN server would add “latency” compared to sending data directly “on the home network.” Appx400-401.

Our IPR briefing also explained that Qureshey and Al-Shaykh come from “different generations of internet-connected media systems” and addressed different challenges. RB38 (quoting OB49-51). As to the generational distinction, we noted that Qureshey’s technology was “well-known” by Al-Shaykh’s era, and that Al-Shaykh “proposes a

different solution that addresses the drawbacks of such systems.”

Appx384-385. Regarding the problems each reference addressed, we explained that Qureshey minimized reliance on computing and networking with other devices by functioning “*without the need* for a personal computer or other expensive equipment.” Appx365 (quoting Appx3353-3354 (7:28-33, 10:49-50)). Al-Shaykh, by contrast, sought to offer an improved mobile “interface” that could “share media content from a mobile device to a home network” without the “limitations” of existing interfaces. Appx362 (quoting Appx3279-3280 [0007-0014]).

There is thus no forfeiture here. That doctrine “is limited in its application.” *Interactive Gift Exp., Inc. v. CompuServe Inc.*, 256 F.3d 1323, 1346 (Fed. Cir. 2001). It applies only where a party declined to raise an entire “claim or issue” in a lower tribunal. *Id.* (quoting 19 Moore’s Federal Practice § 205.05, at 205-55 (3d ed. 1997)). As long as “the tribunal was ‘fairly put on notice as to the substance of the issue,’” the “exact phrasing of the argument need not have been used below,” *Medtronic, Inc. v. Teleflex Innovations S.A.R.L.*, 68 F.4th 1298, 1305 (Fed. Cir. 2023), and the party is permitted to build out “supporting arguments” on appeal, *Interactive Gift*, 256 F.3d at 1346.

Sonos raised the same issue of technological disparities between Qureshey and Al-Shaykh—with the same supporting arguments—to the Board. This case thus bears no resemblance to Google’s cited decisions, where a party raised entirely “new theories” on appeal. RB36 (quoting *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1426 (Fed. Cir. 1997)); see RB38, 45. Google’s contention that certain “sub-arguments” on this issue were less developed before the Board, RB1, is wrong and falls well short of the threshold for forfeiture even on its own terms.

2. The Board failed to cite substantial evidence that Al-Shaykh’s playback device can retrieve content directly from a remote server.

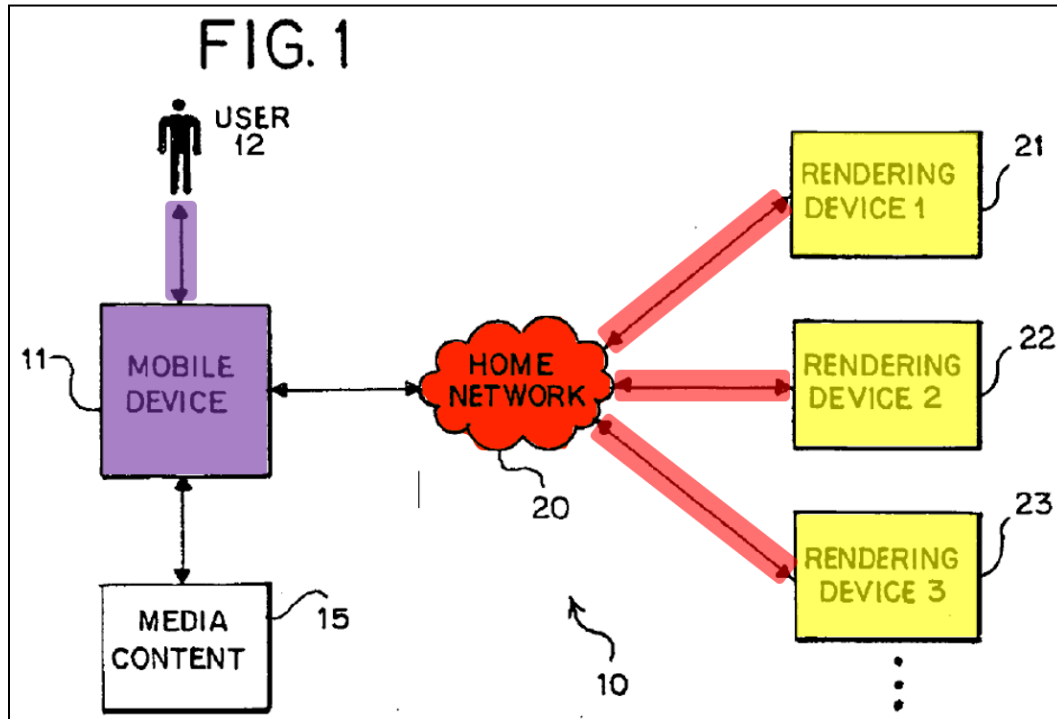
The foregoing errors are more than enough to invalidate the Board’s unsupported finding that a skilled artisan looking to improve Al-Shaykh would have considered Qureshey. And the Board made things worse by crediting a non-existent similarity between the references: that Al-Shaykh’s playback device, like Qureshey’s, “can directly retrieve media content from a remote server for playback.” Appx40-41 (citing Appx151-152 and Appx3146-3147 ¶¶102-103). The Board mistakenly made that finding based on Al-Shaykh’s statement

that shared content “not stored locally on the mobile device 11 ... may or *may not* flow through the mobile device 11” en route to the playback device. Appx55 (quoting Appx3286 [0094]) (Board’s emphasis).

Our opening brief explained why the Board’s reading of that clause lacks substantial evidence. OB51-54. The Board overlooked Al-Shaykh’s subsequent explanation of *when* content stored outside the mobile device does and does not flow through the mobile device. If content is stored on a *local* “media server in the home network,” Al-Shaykh’s playback device can “obtain” it “directly” using its local connection to the server. Appx3286 [0096]. But if content is stored outside the home network on “a remote content service,” Al-Shaykh’s playback device has no direct connection. Instead, the *mobile device* retrieves content from the remote service in order to “relay” it “to the target [playback] device using the home network.” Appx3286 [0095]; see Appx3281 [0020]. That is what the “may” and “may not” mean in the clause the Board quoted.

Indeed, there is not a single sentence or image anywhere in Al-Shaykh that portrays a playback device directly connecting to a remote

content service. Al-Shaykh consistently describes the system *without* that sort of connection, as in Figure 1:

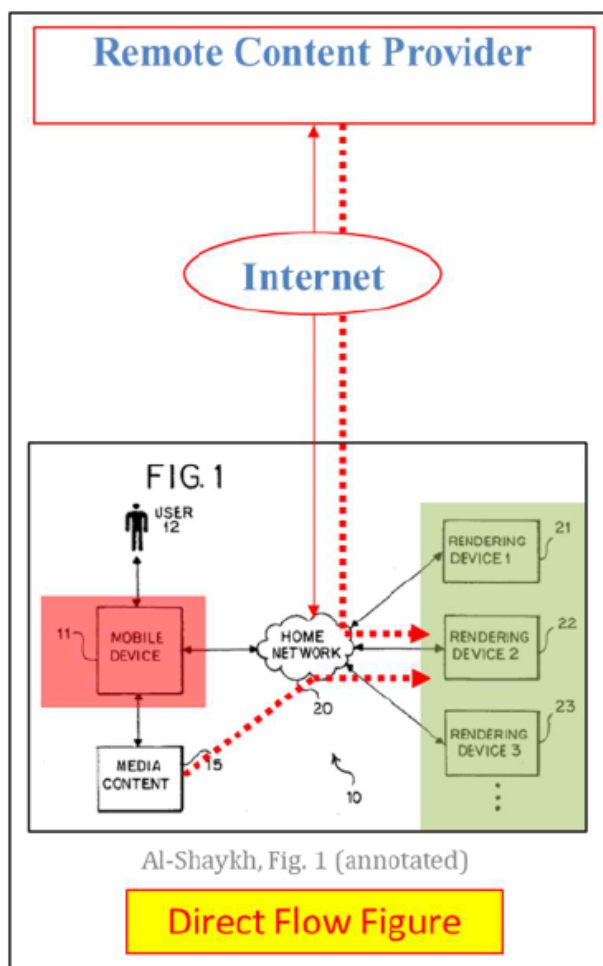


Appx3274.

Google cannot dispute that the Board quoted a single clause out of context without assessing any of those surrounding details. So it tries to backfill the Board’s decision by supplying a new rationale—that it would have been “reasonable” for the Board to dismiss those surrounding details as “just ‘example[s]’” that place no “limits” on the scope of Al-Shaykh’s system. RB41. But Sonos is not trying to “read limitations” from particular embodiments into a more broadly articulated invention. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d

898, 913 (Fed. Cir. 2004). We are simply limiting Al-Shaykh’s teachings to the sum total of what its specification, read as a whole, *actually discloses*. And, as explained, the specification *never* discloses a playback device making a direct connection to a remote content service, even as it describes in detail how the mobile device makes such a connection. The single clause that the Board quoted—“media content may or may not flow through the mobile device 11,” Appx55 (quoting Appx3286 [0094])—must be understood in that context. It cannot reasonably be read to obliquely encompass a technical feature that Al-Shaykh universally omits when describing its system.

Just look at how heavily Google must rework Al-Shaykh’s Figure 1 to add (in blue text and red outline) a “direct flow” of content between the playback devices at right and a remote content provider:



RB9. Google had to create the entire top half of that image, and the set of red lines flowing from it, precisely because Al-Shaykh never teaches the “direct flow” Google desires. This drastic rewriting of a reference is far from “the epitome of a finding that this Court affirms on substantial evidence.” RB41. It is a fundamental mischaracterization that should not survive the “thorough and searching” “factual inquiry” regarding obviousness. *Nuvasive*, 842 F.3d at 1381 (quotation marks omitted).

3. The Board failed to cite substantial evidence that a skilled artisan would have sought to improve Al-Shaykh’s GUI by consulting Qureshey.

The Board fared no better in finding that a skilled artisan would have consulted Qureshey partly because of the prospect of “improv[ing]” the interface on Al-Shaykh’s control device. Appx40. Our opening brief explained that the Board (and Dr. Bims) failed to establish why a skilled artisan would have perceived any deficiency in Al-Shaykh’s comprehensive control interface—let alone consulted Qureshey for improvements. OB56-57. Google does not dispute on appeal that the Board failed to speak to those issues, or that the omissions mean the Board’s finding regarding a motivation to combine GUIs lacks substantial evidence.

Google’s only argument is that Qureshey’s PC and Al-Shaykh’s mobile device “provide comparable GUI functionality” and help demonstrate the broader similarity of the two systems. RB43. All Google cites, however, is evidence that both devices enable users to somehow interact with “playlists.” RB42. Beyond that narrow and vague overlap (which the Board never discussed, *see* Appx40), Google concedes that Al-Shaykh’s interface performs a wide range of core

functions that Qureshey's PC lacks, including "transferring playback to the playback device and controlling such playback." RB43. That plainly shows the interfaces of the two devices are not "comparable." Dr. Bims' assertion to the contrary made no mention of those differences. Appx3128 ¶ 75. Once more, these technical gaps render his testimony conclusory. *TQ Delta*, 942 F.3d at 1360.

B. The Board erroneously found that a skilled artisan looking to improve Al-Shaykh would have incorporated Qureshey's IPAN server in particular.

Even assuming a skilled artisan would have considered Qureshey, the Board separately failed to cite substantial evidence for the particular modification Google proposed: using Qureshey's cloud-based IPAN server to alter the way Al-Shaykh's mobile device communicates with a playback device. Our opening brief explained why that modification made no sense. OB58-65. Al-Shaykh's mobile device sends media content and related information to the playback device in real time over a direct, home-network connection. *Supra* 5-6; OB60-61. Google's proposed modification instead required the mobile device to relay URLs to the playback device via a remote IPAN server located in the cloud and designed to deliver playlists "overnight." OB59-60

(quoting Appx3351 (3:49-56)). The Board failed to muster substantial evidence that a skilled artisan either “could” or “would” have made that counterintuitive substitution, *TQ Delta*, 942 F.3d at 1360, and Google offers no such evidence on appeal.

1. In defending the substance of the Board’s finding, Google spends most of its time on a red herring. It asserts that the Board found a skilled artisan would have been motivated to make Al-Shaykh’s playback device “retrieve media content from a remote server” itself, rather than rely on the mobile device to relay such content. RB47. The Board did indeed make that (highly questionable) finding. As our opening brief explained, it decided a skilled artisan would have been motivated to enable Al-Shaykh’s playback device—like Qureshey’s playback device—to store “URLs” and thereby “retrieve the content to be played back without assistance from the mobile control device.” OB63 (quoting Appx41). The Board concluded that sort of direct connection between playback device and remote content service “would improve the user experience by minimizing playback stoppages at the [playback] device” in the event its connection to the mobile device failed during playback. *Id.* (quoting Appx41); see RB47. In the Board’s view,

Qureshey’s URL storage feature filled in “the back-end functionality that facilitates this transaction.” Appx44 (quoting Appx152); *see* RB47.

None of that answers the relevant question. The findings that the Board made, and that Google now recites, are about how the playback device retrieves content from a *remote content service*. But this appeal concerns a different type of communication between a different set of devices: how the *mobile device* causes the playback device to receive URLs. Even crediting the Board’s finding that a skilled artisan would want Al-Shaykh’s playback device to store URLs and use them to retrieve remote content, Google still had to establish the skilled artisan’s motivation for *additionally* altering how Al-Shaykh’s mobile device communicates with the playback device—namely, by abandoning the direct home-network connection between them and instead adding the IPAN server as a cloud-based intermediary. OB61, 63.

The Board offered no reasoning at all on that front. OB64-65. It did not attempt to explain how a skilled artisan *could*, as a technical matter, have incorporated the IPAN server as an intermediary between Al-Shaykh’s mobile and playback devices. OB64. Nor did the Board try to explain why the artisan *would* have made such a change even if it

were feasible. OB64-65. The Board never considered the drawbacks of replacing a direct, home-networked connection with a slower, cloud-based relay that required additional hardware and complexity. OB65. And the Board certainly offered no reason why a skilled artisan would have proceeded despite those drawbacks. OB65.

Google has no response to those arguments. It cannot point to anything in the Board’s decision, or Dr. Bims’ testimony, that addresses why a skilled artisan wishing to deliver URLs would have bypassed Al-Shaykh’s direct mobile device-playback device connection in favor of an indirect relay via the IPAN server. *See* RB47-48. Perhaps that is one (convoluted) way Al-Shaykh *could* be modified to deliver URLs. But obviousness requires more than that—a reason why the skilled artisan would consider that route “suitable.” RB53-54 (quoting *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021)). There is no such reason in the Board’s decision or anywhere in the underlying record.

Google thus gets nowhere by noting that “if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious.” RB33 (quoting *Unwired Planet, LLC v.*

Google Inc., 841 F.3d 995, 1003 (Fed. Cir. 2016)). That proposition never comes into play here because the Board did not explain why (and Google offered no substantial evidence that) Qureshey and Al-Shaykh teach “similar devices” that would be improved in the “same way” by the IPAN server.

2. Google further distracts from those critical gaps in the Board’s reasoning by repeating its unpersuasive arguments that certain differences between Qureshey and Al-Shaykh are actually similarities. *Supra* 7-9. Google urges that the interface on Qureshey’s PC offers minimal playback “control” because its “schedule button” can arrange for a playlist to start playing at a later time. RB46 (quoting Appx3361 (23:38)). Of course, that is nothing like the comprehensive, real-time playback transfer and control offered by Al-Shaykh’s multi-function mobile interface. *Supra* 5-6. But even on its own terms, Google’s argument about Qureshey’s PC interface simply has no bearing on whether a skilled artisan would have changed the way Al-Shaykh’s mobile device sends information to the playback device.

Google also revives its mistaken suggestion that Qureshey relies on “home network connections for device communications.” RB46; *see*

supra 8-9. As explained, however, Google actually notes that certain local connections were *optional additions* to Qureshey's system. *Supra* 9. That, too, is beside the point. Google did not propose, and the Board did not endorse, integrating any such optional home-network connection from Qureshey into Al-Shaykh. They added the IPAN server, a cloud-based intermediary that undisputedly works *without* any home-network connection. The Board was required, but failed, to explain what would have motivated a skilled artisan to make that specific change.

Google then revives its argument that, contrary to Sonos's reading, Al-Shaykh teaches that its playback devices can somehow retrieve content directly from a remote service. RB47. As explained, that is wrong. *Supra* 17-21. But it is also irrelevant here. Our point is that *even crediting* this misreading of Al-Shaykh, *supra* 24-25, the Board and Google failed to establish any motivation for adding Qureshey's IPAN server to the combined system.

3. Ultimately, Google resorts to the same baseless forfeiture arguments. It again asserts that Sonos pursued a "starkly different rationale" before the Board and "never raised" the "poor technological fit" between Qureshey's use of the IPAN server as a cloud-based

intermediary and Al-Shaykh's reliance on direct, home-networked connections. RB44-45 (quoting OB61, 63). As explained, however, that poor fit was central to Sonos's presentation to the Board. *Supra* 13-17.

II. The Board Failed To Marshal Substantial Evidence For Modifying Al-Shaykh To Implement Claim 9's Unique Form Of Cloud Messaging.

Regardless of whether the Board established a motivation to add Qureshey's IPAN server to Al-Shaykh's system, it separately failed to marshal substantial evidence that claim 9 (along with claim 21) is obvious. Claim 9 requires the control device to communicate with the first cloud server by "sending a message to the streaming content service that causes the one or more first cloud servers to add the multimedia content to the local playback queue on the particular playback device." Appx105 (19:35-38). Mapping that onto Google's proposed combination, Al-Shaykh's mobile device (the control device) must send a message to the remote content provider (the streaming content service) that causes the first cloud server (Qureshey's separate IPAN server) to deliver URLs to the playback device.

As our opening brief explained, the Board offered no motivation for modifying Al-Shaykh's mobile device to send that type of message.

OB65-72. It merely noted that in its original form, Al-Shaykh’s mobile device sends an entirely different message to the remote content service—one that helps facilitate the *mobile device’s* direct download of content from the service. OB68-69 (citing Appx66). The Board then summarily concluded, without further explanation, that in “the Al-Shaykh-Qureshey combined system,” the mobile device would somehow be altered to send a message to the remote content service that would “cause” the IPAN server “to add” URLs to the playback device. OB69 (quoting Appx64-65). That unreasoned leap failed to explain how a skilled artisan could have integrated that new type of messaging, let alone why the artisan would have made the change. OB70-72.

In a stunning concession, Google now admits the type of message claim 9 requires is not part of “how the combined system operates.” RB52-53. The mobile device never sends a message that *both* (1) travels to the remote streaming service *and* (2) causes the IPAN server to add URLs to the playback device. *See* Appx105 (19:35-38). Instead, the mobile device sends *two distinct* messages, each performing only one of those functions. The first message travels “directly” to the IPAN server and instructs it “to add URLs to the playback device.” RB53. The other

“message” travels “to the streaming content service” but has nothing to do with the IPAN server adding URLs, which is handled by the “direct communication” between the mobile device and IPAN server. *Id.*

Google’s concession compels reversal of the Board’s obviousness findings. The absence of the type of message described by claim 9 does not merely render Google’s proposed combination “less than ideal,” RB53, or “not the best option,” RB54. It shows the combination lacks the very message Google needed (and the Board erroneously purported to find) to establish obviousness. Google changes nothing by suggesting that the mobile device sends the separate messages it describes in response to the same “user input.” RB51. Claim 9 requires a single “message” performing both of those functions, not merely a single input. Appx105 (19:35-38).

Given Google’s dispositive concession, there is no need to engage with its contention (at 48-50) that Sonos forfeited arguments on this issue. *See Automated Merchandising Sys., Inc. v. Lee*, 782 F.3d 1376, 1379 (Fed. Cir. 2015) (forfeiture may be disregarded where “[p]roper resolution of the issue ... is beyond doubt”). And that contention is wrong in any event. Google misleadingly presents one paragraph as the

entirety of Sonos’s presentation to the Board on this issue. RB49 (quoting Appx419-420). Here is what the full IPR record shows: We acknowledged Google’s argument that Al-Shaykh’s mobile device, in its original form, sends a message to the remote content service when the mobile device directly downloads content. Appx489. We emphasized that such a message would lack the “specific functionality required by claim 9”—namely, the ability to “cause[] the one or more first cloud servers” to transfer playback. Appx419-420; *see* Appx489 (“Disclosure of a general message to a streaming service ... simply does not achieve the specific latter requirement.”). So that functionality would have to be added somehow in combining Al-Shaykh with Qureshey. But, we argued, Google “never articulates (nor could it) how the combination of Al-Shaykh and Qureshey satisfies th[at] requirement.” Appx489. Our opening brief on appeal made exactly the same point. *See* OB68-72.

III. The Board Failed to Marshal Substantial Evidence That Al-Shaykh Teaches, Or A Skilled Artisan Would Have Incorporated From Phillips, A Control Device That Stops Its Own Playback When Sharing Content.

The Board separately failed to show that the prior art teaches another limitation of claim 1—“causing playback at the control device to be stopped” upon transferring playback to the playback device.

Appx104 (18:1-2). The Board's obviousness rationale on this point had a fatal flaw: It misunderstood Al-Shaykh's paragraph 132 as teaching that the mobile device stops its own playback during transfer. That paragraph actually teaches that the mobile device *does not* stop, as the European Patent Office has explained and Google itself conceded below. OB77-80. The Board's misreading of paragraph 132 was essential to its finding that Al-Shaykh alone renders obvious claim 1's stopping limitation, OB80, and equally critical to the Board's alternative finding that a skilled artisan would have been motivated to combine Al-Shaykh with Phillips, OB81-83. Those rulings thus lack substantial evidence and cannot stand on appeal.

A. The Board erroneously found that Al-Shaykh teaches stopping playback at the control device.

Google cannot dispute what it said to the Board: Paragraph 132 describes the mobile and playback devices performing "simultaneous playback" of shared content. Appx650 (41:6-7). Google simply pretends that concession never happened and adopts the Board's contrary reading of paragraph 132 as its own. But Google was right the first time. The only "reasonable" way to construe paragraph 132, RB59, is disclosing simultaneous playback. It states that the mobile device's

media application switches its “internal state from ‘PAUSE’ to ‘PLAY’” when sharing content. Appx3290 [0132]. That yields “rendering of the media content on the mobile device ... *substantially simultaneously with* the transfer to and/or the rendering of the media content *on the target rendering device.*” Appx3290 [0132] (emphasis added). Because the mobile device plays the shared content alongside the playback device, it switches back “from ‘PLAY’ to ‘PAUSE’” when sharing ends. Appx3290 [0132].

Google offers no way to read those words to mean the mobile device stops its own playback when sharing content. It merely repeats the Board’s puzzling assertion that “setting the [mobile device’s] state to PLAY causes playback to begin (or continue) at the mobile device, *and then* media content is transferred to the playback device where playback continues” while “Al-Shaykh stops playback on the mobile device.” RB58-59 (citing Appx47-48). That is not what Al-Shaykh says. The mobile device does not momentarily switch to “PLAY” when initiating content sharing, only to stop as soon as the content is “transferred.” It switches to “PLAY” for the duration of the sharing. That is why Al-Shaykh says the mobile and playback device render

content “substantially simultaneously”—not sequentially. Appx3290 [0132]. It is also why the mobile device switches back “from ‘PLAY’ to ‘PAUSE’” when sharing ends—not before. Appx3290 [0132]. Google does not even try to reconcile the Board’s reading with those teachings.

Taking another tack, Google marginalizes the pivotal role paragraph 132 played in the Board’s finding. Google suggests that the Board “credited Dr. Bims’s testimony” about other portions of Al-Shaykh as an *independent* ground for obviousness, with paragraph 132 playing a minimal and ultimately “irrelevant” role. RB56. That has it backward. As our opening brief explained, the Board relied squarely on paragraph 132 to establish that Al-Shaykh discloses the mobile device stopping its own playback when sharing content. OB77-78 (citing Appx46-48). The Board cited Dr. Bims’ testimony regarding other portions of Al-Shaykh merely to “confirm[]” its “understanding” of paragraph 132. Appx48. That assessment was not “independent”—it was “infected” with the Board’s misreading of paragraph 132. *Netflix, Inc. v. DivX, LLC*, No. 2022-1083, 2023 WL 2298768, at *5 (Fed. Cir. Mar. 1, 2023) (citing *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015)).

Ultimately, Google asks this Court to deem the Board’s error “harmless” and affirm based on Google’s new theory—that even when paragraph 132 is correctly read to disclose simultaneous playback, other portions of Al-Shaykh teach stopping playback at the mobile device. RB60. But “substituting” that rationale at this stage would be improper. *In re Thrift*, 298 F.3d 1357, 1366 (Fed. Cir. 2002) (quoting *SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947)). Indeed, Google’s novel theory is so plainly unsubstantiated that this Court should reject it outright and reverse the Board’s obviousness finding. *See Arendi*, 832 F.3d at 1366 (reversing finding of unpatentability where “a more reasoned explanation than that provided by the Board” could not be “gleaned from the record”). As our opening brief explained, Dr. Bims cited other portions of Al-Shaykh that describe an entirely different feature of the system: When the mobile device *stops* sharing content with a particular playback device (by canceling sharing entirely or switching to another pairing), the *playback device* stops its own playback. OB75-77. That has nothing to do with the *mobile device’s* behavior *during* sharing, and Dr. Bims offered only an unexplained, conclusory connection between them. OB76-77.

At minimum, this Court should vacate the Board’s obviousness finding and remand “for the agency” to assess Google’s novel theory in the first instance, with a proper understanding of paragraph 132 in mind. *Ariosa*, 805 F.3d at 1365.

B. The Board erroneously found a motivation to combine Al-Shaykh with Phillips.

The Board’s misreading of paragraph 132 also shaped its rationale for combining Al-Shaykh with Phillips. Sonos argued that paragraph 132’s disclosure of simultaneous playback would have dissuaded a skilled artisan from incorporating contrary teachings from Phillips that instead *stop* the control device’s playback when sharing content. OB81. The Board rejected that argument solely because, for “the reasons discussed above [at Appx46-49],” it mistakenly believed Al-Shaykh’s paragraph 132 taught stopping playback. Appx52. Google is simply wrong that “the Board’s rationale for the alternative Phillips ground was premised on accepting as true Sonos’s argument that Al-Shaykh does not disclose the recited functionality.” RB63-64. Just the opposite.

Because the Board overlooked that “technical gap[]” between Al-Shaykh and Phillips, *TQ Delta*, 942 F.3d at 1360, it failed to offer a “reasoned explanation” for combining them, *DSS*, 885 F.3d at 1377

(quoting *Arendi*, 832 F.3d at 1366). The Board never even purported to explain why a skilled artisan would have been motivated to make the combination if paragraph 132 instead taught simultaneous playback by the mobile and playback devices. *See* Appx52. That means its finding of a motivation to combine (and the underlying obviousness finding) lacked substantial evidence.

Google changes nothing by noting that the Board “credited” other similarities between the Al-Shaykh and Phillips systems, like their ability to “transfer playback of media content.” RB61-62 (quoting Appx50). Again, identifying isolated “similarities” between references does not make up for ignoring significant “technical gaps” between them. *TQ Delta*, 942 F.3d at 1360. The Board was still obligated, but failed, to provide a reasoned analysis of how the skilled artisan would have accounted for paragraph 132’s disclosure of simultaneous playback.

Google fares no better in suggesting that even if Al-Shaykh’s paragraph 132 teaches simultaneous playback, it does not reject stopping playback on the mobile device emphatically enough to “teach away” from it. RB62-63. That is wrong; paragraph 132 teaches away

because it leads “in a direction divergent from the path that was taken” by Phillips. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (citation omitted). But in any event, Google’s argument is not a rationale the Board endorsed and so offers no basis for affirmance. *Thrift*, 298 F.3d at 1366. Moreover, even if paragraph 132 did not rise to the level of “teach[ing] away” from stopping playback, as Google contends, its “statements regarding” simultaneous playback would still be “relevant to a finding regarding whether a skilled artisan would be motivated to combine” Al-Shaykh with Phillips. *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1051 n.15 (Fed. Cir. 2016). And the Board still would have failed to address that critical issue.

Google’s expert did not address it, either. Dr. Bims never explained why paragraph 132, properly construed, would not have dissuaded a skilled artisan from combining Al-Shaykh with Phillips. OB82. This Court should therefore reverse the Board’s finding of a motivation to combine, along with the underlying obviousness ruling, for lack of substantial evidence. *See Arendi*, 832 F.3d at 1366. At minimum, the Court should vacate those findings.

CONCLUSION

The Court should reverse or vacate the Board's findings that the challenged claims are obvious and unpatentable.

March 1, 2024

George I. Lee
Sean M. Sullivan
Rory P. Shea
J. Dan Smith
Cole B. Richter
Matthew Sampson
LEE SULLIVAN SHEA & SMITH LLP
656 W. Randolph St., Floor 5W
Chicago, IL 60661

Respectfully submitted,

/s/ Mark S. Davies

Mark S. Davies
Jonas Q. Wang
ORRICK, HERRINGTON &
SUTCLIFFE LLP
2100 Pennsylvania Avenue, NW
Washington, DC 20037
(202) 339-8400

Edmund Hirschfeld
Emily W. Villano
ORRICK, HERRINGTON &
SUTCLIFFE LLP
51 West 52nd Street
New York, NY 10019

Counsel for Appellant

CERTIFICATE OF COMPLIANCE

The brief complies with the type-volume limitation of Fed. Cir. R. 32(b)(1) because this brief contains 6977 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f) and Fed. Cir. R. 32(b)(2).

This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Word for Microsoft 365 in Century Schoolbook 14-point font.

ORRICK, HERRINGTON & SUTCLIFFE LLP

/s/ Mark S. Davies

Mark S. Davies

Counsel for Appellant